

Patent  
Attorney's Docket No. 028723-020

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of )  
Joe GRAY et al )  
Application No.: 08/487,701 ) Group Art Unit: 1807  
Filed: June 7, 1995 ) Examiner: Unassigned  
For: CHROMOSOME-SPECIC STAINING )  
TO DETECT GENETIC )  
REARRANGEMENTS )



**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. §1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98. Pursuant to 37 C.F.R. § 1.98, a copy of each of the documents cited is enclosed.

**U.S. PATENTS**

4,683,202  
5,085,983  
5,427,932  
5,447,841  
5,472,842

**FOREIGN PATENTS**

European Patent No. 0430402

OTHER DOCUMENTS

Boyle et al, "Differential Distribution of Long and Short Interspersed Element Sequences in the Mouse Genome: Chromosome Karyotyping By Fluorescence *In Situ* Hybridization," PNAS (USA), Vol. 87, Oct. 1990, pp. 7757-7761

Bufton et al, "A Highly Polymorphic Locus On Chromosome 16q Revealed By A Probe From A Chromosome-Specific Cosmid Library," Human Genetics, Vol. 74, 1986, pp. 425-431

Bufton et al, "Four Restriction Fragment Length Polymorphisms Revealed By Probes From A Single Cosmid Map To Human Chromosome 19," Am J Hum Genet, Vol. 38, 1986, pp. 447-460

Burk et al, "Organization and Chromosomal Specificity of Autosomal Homologs of Human Y Chromosome Repeated DNA," Chromosoma, Vol. 92, 1985, pp. 225-233

Buroker et al, "Four Restriction Fragment Length Polymorphisms Revealed By Probes From A Single Cosmid Map To Human Chromosome 12q," Human Genetics, Vol. 72, 1986, pp. 86-94

Coté et al, "Quantitation of *in situ* Hybridization of Ribosomal Ribonucleic Acids to Human Diploid Cells," Chromosoma, Vol. 80, 1980, pp. 349-367

Cremer et al, "Preparative Dual-Beam Sorting of the Human Y Chromosome and *In Situ* Hybridization of Cloned DNA Probes," Cytometry, Vol. 5, 1984, pp. 572-579

Davies, "The Application of DNA Recombinant Technology to the Analysis of the Human Genome and Genetic Disease," Human Genetics, Vol. 58, 1981, pp. 351-357

Dennis et al, "Cytogenetics of the Parthenogenetic Grasshopper *Warramaba virgo* and Its Bisexual Relatives," Chromosoma, Vol. 82, 1981, pp. 453-469

Dutrillaux et al, "Characterization of Chromosomal Anomalies in Human Breast Cancer," Cancer Genet. Cytogenet., Vol. 49, (1990), pp. 203-217

Gerhard et al, "Localization Of a Unique Gene By Direct Hybridization *in situ*," PNAS, Vol. 78, 1981, pp. 3755-3759

Haase et al, "Detection of Two Viral Genomes in Single Cells By Double-Label Hybridization *in Situ* and Color Microradioautography," Science, Vol. 227, 1985, pp. 189-192

Holden et al, "Amplified Sequences from Chromosome 15, Including Centromeres, Nucleolar Organizer Regions, and Centromeric Heterochromatin, in Homogeneously Staining Regions in the Human Melanoma Cell Line MeWo," Cancer Genet. & Cytogenet., Vol. 14, 1985, pp. 131-146

Houldsworth et al, "Comparative Genomic Hybridization: An Overview," Am. J. Pathology, Vol. 145, No. 6, 1994, pp. 1253-1260

Kallioniemi et al, "Comparative Genomic Hybridization for Molecular Cytogenetic Analysis of Solid Tumors," Science, Vol. 258, 1992, pp. 818-821

Kallioniemi et al, "Optimizing Comparative Genomic Hybridization for Analysis of DNA Sequence Copy Number Changes in Solid Tumors," Genes, Chromosomes & Cancer, Vol. 10, 1994, pp. 231-243

Krumlauf et al, "Construction and Characterization of Genomic Libraries From Specific Human Chromosomes," PNAS, Vol. 79, 1982, pp. 2971-2975

Kunkel et al, "Organization and Heterogeneity of Sequences Within A Repeating Unit Of Human Y Chromosome Deoxyribonucleic Acid," Biochem., Vol. 18, 1979, pp. 3343-3353

Landegent et al, "Fine Mapping Of The Huntington Disease Linked D4S10 Locus By Non-Radioactive In Situ Hybridization," Human Genetics, Vol. 73, 1986, pp. 354-357

Lichter et al, "Fluorescence *In Situ* Hybridization with *Alu* and L1 Polymerase Chain Reaction Probes for Rapid Characterization of Human Chromosomes in Hybrid Cell Lines," PNAS (USA), Vol. 87, Sept. 1990, pp. 6634-6638

Litt et al, "A Highly Polymorphic Locus In Human DNA Revealed By Probes From Cosmid 1-5 Maps To Chromosome 2q35→37," Am J Hum Genet, Vol. 38, 1986, pp. 288-296

Litt et al, "A Polymorphic Locus On The Long Arm Of Chromosome 20 Defined By Two Probes From A Single Cosmid," Human Genetics, Vol. 73, 1986, pp. 340-345

Malcolm et al, "Chromosomal Localization Of A Single Copy Gene By *in situ* Hybridization - Human  $\beta$  Globin Genes On The Short Arm Of Chromosome 11," Ann. Hum. Genet., Vol. 45, 1981, pp. 134-141

Nelson et al, "Genomic Mismatch Scanning: A New Approach To Genetic Linkage Mapping," Nature Genetics, Vol. 4, 1993, pp. 11-18

Park et al, "Amplification, Overexpression, and Rearrangement of the *erbB-2* Protooncogene in Primary Human Stomach Carcinomas," Cancer Research, Vol. 49, Dec. 1989, pp. 6605-6609

Pierce et al, "Analysis Of A Dispersed Repetitive DNA Sequence In Isogenic Lines of *Drosophila*," Chromosoma, Vol. 82, 1981, pp. 471-492

Rabin, "Mapping Minimally Reiterated Genes On Diploid Chromosomes By In Situ Hybridization," thesis, Dept. of Biochemistry, Univ. Ill., 1982

Rabin et al, "Two Homoeo Box Loci Mapped In Evolutionarily Related Mouse And Human Chromosomes," Nature, Vol. 314, 1985, pp. 175-178

Ried et al, "Simultaneous Visualization of Seven Different DNA Probes by *In Situ* Hybridization Using Combinatorial Fluorescence and Digital Imaging Microscopy," PNAS (USA), Vol. 89, Feb. 1992, pp. 1388-1392

Ruddle, "A New Era In Mammalian Gene Mapping: Somatic Cell Genetics And Recombinant DNA Methodologies," Nature, Vol. 294, 1981, pp. 115-120

Saint-Ruf et al, "Proto-Oncogene Amplification and Homogeneously Staining Regions in Human Breast Carcinomas," Genes, Chromosomes & Cancer, Vol. 2, (1990), pp. 18-26

Siracusa et al, "Use of Repetitive DNA Sequences To Distinguish *Mus musculus* and *Mus caroli* Cells By *in situ* Hybridization," J Embryol. exp. Morph., Vol. 73, 1983, pp. 163-178

Sondermeijer et al, "The Activity of Two Heat Shock Loci of *Drosophila hydei* In Tissue Culture Cells and Salivary Gland Cells as Analyzed by *in situ* Hybridization of Complementary DNA," Chromosoma, Vol. 72, 1979, pp. 281-291

Steinemann, "Multiple Sex Chromosomes in *Drosophila miranda*: A System to Study the Degeneration of a Chromosome," Chromosoma, Vol. 86, 1982, pp. 59-76

Szabo et al, "Quantitative *in Situ* Hybridization of Ribosomal RNA Species to Polytene Chromosomes of *Drosophila melanogaster*," J. Mol. Biol., Vol. 115, 1977, pp. 539-563

The documents are being submitted within 3 months of the filing or entry of the national stage of this application or before the first Office Action on the merits, whichever is later, therefore no fee or certification is required under 37 C.F.R. § 1.97(b).

Information Disclosure Statement  
Application Serial No. 08/487,701  
Attorney's Docket No. 028723-020  
Page 5

To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialled copy of this form be returned to the undersigned.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 

Donna M. Meuth  
Registration No. 36,607

P.O. Box 1404  
Alexandria, VA 22313-1404  
Phone: (703) 836-6620

Date: July 16, 1996